

CLAIM(S):

1. A pneumatic chest compression vest comprising:
a generally rigid front panel having an outer surface and an inner surface
and a central portion and side portions;
a flexible air bladder mounted on an inner surface of the front panel;
a plurality of air ports through which the air bladder is connectable to a
source of oscillating pneumatic pressure; and
means for positioning the front panel over a patient's chest so that the
front panel approximately covers a lung containing region of a
patient's chest.
2. The vest of claim 1 wherein the air bladder engages the front and sides
of the patient's chest.
3. The vest of claim 1 wherein the air bladder engages the region of the
chest which encompasses the lungs.
4. The vest of claim 1 wherein the front panel has a bib section at its central
portion.
5. The vest of claim 1 wherein the central portion has a height between
about 9.0 inches and about 13.0 inches.
6. The vest of claim 1 wherein the side portions have a height between about
6.0 inches and about 9.0 inches.
7. The vest of claim 1 wherein the vest is asymmetric from front to back.

8. The vest of claim 1 wherein the vest does not change its general shape during treatment.
9. The vest of claim 1 wherein the compressive force causes the patient's chest to change shape.
10. The vest of claim 1 wherein the vest is constructed from material that when incinerated produces no toxic gas and leaves little particulate matter.
11. The vest of claim 1 wherein a top edge of the front panel is positionable near the patient's collar bone and the bottom edge is positionable near a bottom of the patient's rib cage.
12. The vest of claim 1 wherein the air bladder produces compressive forces of a magnitude to induce deep sputum from the patient's lungs or clear the patient's lungs of mucus.
13. The vest of claim 1 wherein the width of the air bladder is about 21 inches.
14. The vest of claim 1 wherein the means for positioning includes a belt attached to one side of the front panel.
15. The vest of claim 14 wherein the vest is secured to a patient by wrapping the belt around the patient's back and over the outer surface of the front panel.
16. The vest of claim 1 wherein the means for positioning includes suspenders.

17. The vest of claim 1 wherein an air coupling connects the air bladder and the source of pneumatic pressure by inserting through the air port of the front panel.
18. The vest of claim 1 wherein the air bladder is made of 4 mil polyethylene.
19. A pneumatic chest compression vest comprising:
 - a generally rigid front panel having an inner surface and a outer surface and a central portion with a height of between about 9 inches and about 13 inches and side portions having a height of between about 6 inches and about 9 inches;
 - a flexible air bladder mounted on the inner surface of the front panel;
 - a plurality of air ports through which the air bladder is connectable to a source of oscillating pneumatic pressure; and
 - a belt for mounting the front panel over a patient's chest so that the front panel approximately covers a lung containing region of a patient's chest.
20. A pneumatic chest compression system comprising:
 - a front panel;
 - a flexible air bladder mounted on an inner surface of the front panel;
 - a belt for holding front panel an the air bladder over a patient's chest;
 - a source of oscillating pneumatic pressure; and
 - air connections between the source and the air bladder.
21. The system of claim 20 wherein the front panel includes a central portion having a height of between about 9 inches and about 13 inches.

22. The system of claim 21 wherein the front panel further includes side portions having a height of between about 6 inches and about 9 inches.

23. A method of providing high frequency chest wall oscillation to a patient, the method comprising:

fitting on a patient a vest having a front panel with an air bladder so that
the air bladder is positioned in contact with a region of the patient's
chest which encompasses the patient's lungs; and
supplying an oscillating pneumatic pressure to the air bladder so that
pressure is applied by the air bladder to the patient's lungs.

24. The method of claim 23 wherein fitting the vest includes:
securing the vest in position with a belt which extends around the
patient's back and across the front panel; and
securing the vest with suspenders which extend over the patient's
shoulders.

25. The method of claim 24 wherein the suspenders are crossed in front of
the patient to hold the vest more securely in place.

26. The method of claim 23 wherein the front panel is comprised of a central
bib portion and side portions.

27. The method of claim 26 wherein the central bib portion extends from the
patient's collar bone to a bottom of the patient's rib cage, and the side portions
extend under the patient's arms.

28. The method of claim 23 wherein a supply of oscillating pneumatic pressure is coupled to the air bladder via air couplings inserted through the air ports on the front panel.

29. A method of providing chest wall oscillation to a patient, the method comprising:

positioning a vest on a patient so that an air bladder carried on an inner surface of a front panel of the vest is located adjacent the patient's chest; and

applying pneumatic pressure through the air bladder over an area on a patient's chest from about the bottom of the rib cage to the collarbone.

30. A method providing chest wall oscillation to a patient, the method comprising:

positioning a vest carrying an air bladder so that the air bladder engages only front and sides of the patient's chest; and

applying pressure through the air bladder to the patient's chest.

31. A method of providing high frequency chest wall oscillation to a patient, the method comprising:

mounting on the patient a vest having a front panel with an air bladder so that the air bladder is positioned in contact with a region of the patient's chest which encompasses the patient's lungs; and

supplying an oscillating pneumatic pressure to the air bladder so that pressure is applied by the air bladder to the patient's lungs.

32. The method of claim 31 wherein mounting includes:
securing the vest in position with a belt which extends around the patient's back.

33. The method of claim 31 wherein mounting includes:
securing the vest with suspenders which extend over the patient's shoulders.